BookletChart™

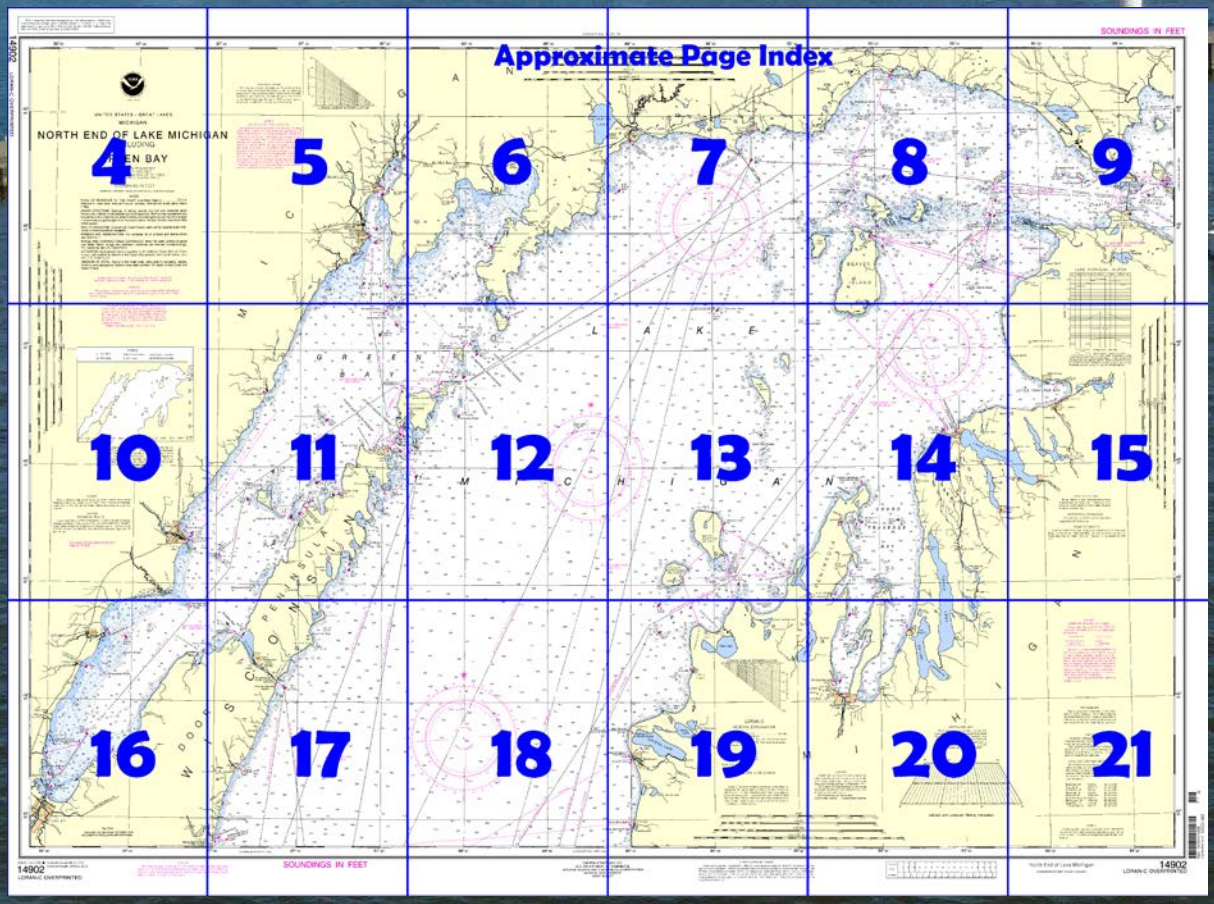
North End of Lake Michigan, Including Green Bay

NOAA Chart 14902

A reduced-scale NOAA nautical chart for small boaters

When possible, use the full-size NOAA chart for navigation.

- Complete, reduced-scale nautical chart
- Print at home for free
- Convenient size
- Up-to-date with Notices to Mariners
- Compiled by NOAA's Office of Coast Survey, the nation's chartmaker



Published by the
National Oceanic and Atmospheric Administration
National Ocean Service
Office of Coast Survey
www.NauticalCharts.NOAA.gov
888-990-NOAA

What are Nautical Charts?

Nautical charts are a fundamental tool of marine navigation. They show water depths, obstructions, buoys, other aids to navigation, and much more. The information is shown in a way that promotes safe and efficient navigation. Chart carriage is mandatory on the commercial ships that carry America's commerce. They are also used on every Navy and Coast Guard ship, fishing and passenger vessels, and are widely carried by recreational boaters.

What is a BookletChart™?

This BookletChart is made to help recreational boaters locate themselves on the water. It has been reduced in scale for convenience, but otherwise contains all the information of the full-scale nautical chart. The bar scales have also been reduced, and are accurate when used to measure distances in this BookletChart. See the Note at the bottom of page 5 for the reduction in scale applied to this chart.

Whenever possible, use the official, full scale NOAA nautical chart for navigation. Nautical chart sales agents are listed on the Internet at http://www.NauticalCharts.NOAA.gov.

This BookletChart does NOT fulfill chart carriage requirements for regulated commercial vessels under Titles 33 and 44 of the Code of Federal Regulations.

Notice to Mariners Correction Status

This BookletChart has been updated for chart corrections published in the U.S. Coast Guard Local Notice to Mariners, the National Geospatial Intelligence Agency Weekly Notice to Mariners, and, where applicable, the Canadian Coast Guard Notice to Mariners. Additional chart corrections have been made by NOAA in advance of their publication in a Notice to Mariners. The last Notices to Mariners applied to this chart are listed in the Note at the bottom of page 7. Coast Pilot excerpts are not being corrected.

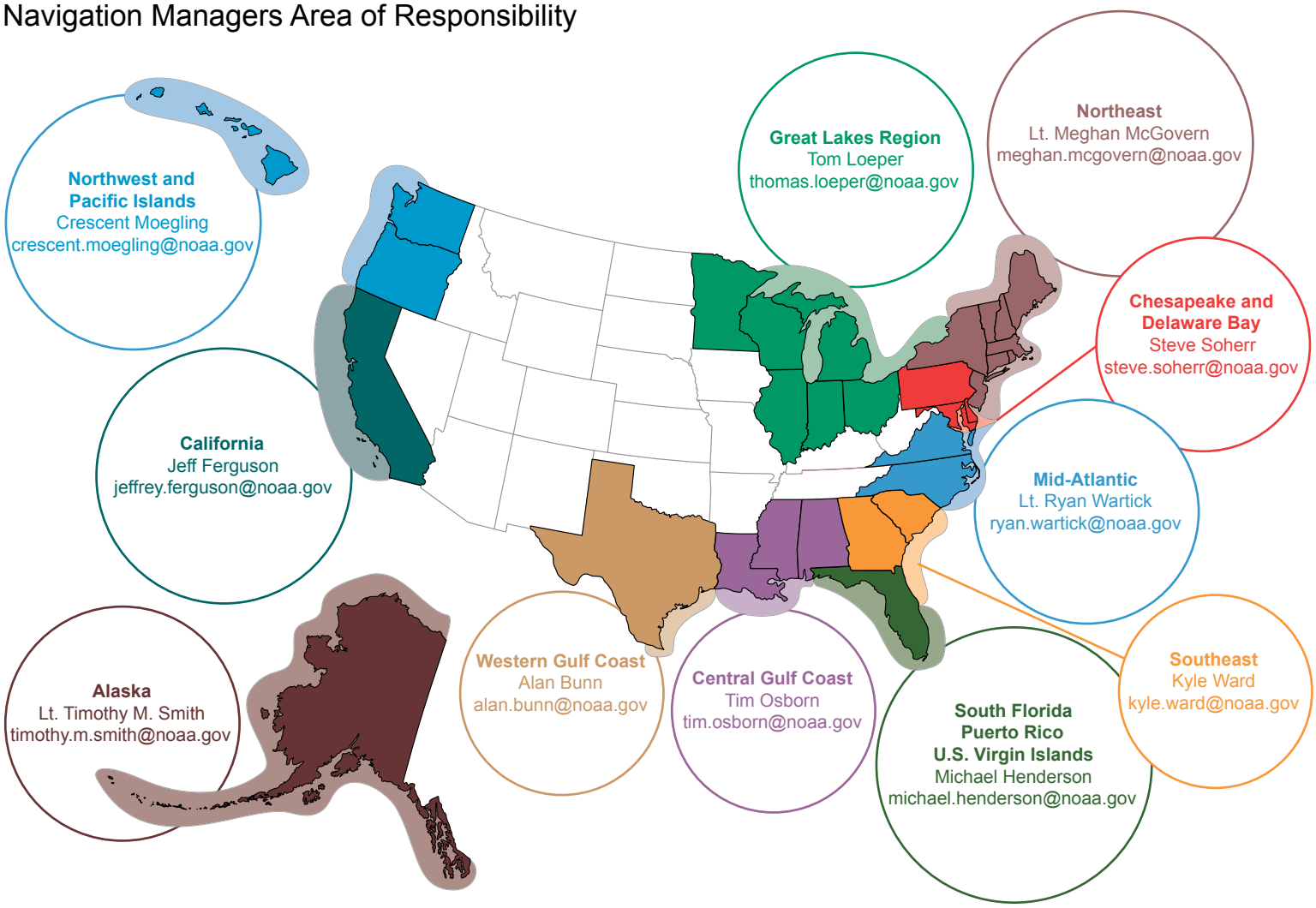
For latest Coast Pilot excerpt visit the Office of Coast Survey website at http://www.nauticalcharts.noaa.gov/nsd/searchbychart.php?chart=14902

(Selected Excerpts from Coast Pilot)
Old Mackinac Point (45°47.3'N., 84°43.8'W.), the northeastern most point of the lower peninsula of the State of Michigan, is on the S side of the narrowest part of the Straits of Mackinac at the entrance to Lake Michigan.
Harbor Springs, Mich. on the N shore of Little Traverse Bay, is a fine small-craft harbor of refuge affording security in any weather. On the N shore of the harbor, docks extend to 10 to 12 feet of water, with 16 feet at the end of the city dock.
Petoskey, Mich., is on the S side near the head of Little Traverse Bay. A small-craft harbor at Petoskey is protected on the W by a breakwater extending N from shore and marked on the outer end by a light. The breakwater should not be passed close aboard due to large riprap stones along the sides, and end.
Beaver Island, the principal island in the group W of Grays Reef Passage, is 13 miles long N and S with a maximum width of 6.5 miles. The wooded island is bluff on the W side and lower on the E side. Shoals extend about 0.5 to 1 mile offshore around the island, except in Sandy Bay, about mid-length of the E side, where deep water is within 0.2 mile of shore.
Good Harbor Bay, between Carp River Point and **Pyramid Point** 7.7 miles WSW, has deep water close to shore and affords protection in all but N to NE winds. However, in the NE part of the bay, an extensive rocky ledge with depths of 2 to 18 feet is 1 to 3 miles offshore.
Frankfort Harbor, 4.3 miles S of Point Betsie, is in Betsie Lake, connected to Lake Michigan by an entrance channel. The shore S of the entrance channel is bluff, reaching over 300 feet above the lake. The city of **Frankfort, Mich.,** is on the N side of Betsie Lake.
Sturgeon Bay Ship Canal provides a navigable connection between Lake Michigan and the S end of Green Bay. A canal has been cut from Lake Michigan across a narrow strip of land to the head of **Sturgeon Bay,** and thence a dredged channel leads through Sturgeon Bay to Green Bay. The Lake Michigan entrance to the canal is about 126 miles N of Milwaukee Harbor, across the lake W of Frankfort, Mich.
Baileys Harbor, about 14 miles N of Whitefish Point, is a small bay protected on the E by a point that extends E, then S, from shore. Shoals that extend 1 mile S from the point are marked on the SW side by a buoy. A shoal with a least depth of 1 foot extends from shore on the W side of the harbor entrance. **Baileys Harbor Directional Light** (45°04.2'N., 87°07.2'W.), at the NW corner of the harbor, shows a higher intensity beam on **340°** which marks the best water into the harbor. Vessels approaching Baileys Harbor should keep 1.5 miles offshore until the white sector is visible. A lighted bell buoy 3 miles SSE of the light, in the white sector, marks the harbor entrance.
Green Bay has a maximum width of 23 miles. The bay is separated from Lake Michigan by two mainland peninsulas; **Garden Peninsula,** the N one, is 20 miles long, and **Door Peninsula,** the S one, is 70 miles long. The entrance to Green Bay between the peninsulas is about 28 miles wide, but is so congested with islands and shoals that the passages between them have acquired the reputation of being dangerous. The main entrances are through Porte des Morts Passage, Rock Island Passage, St. Martin Island Passage, and Poverty Island Passage.
Detroit Harbor is a large, but shallow indentation in the S shore of Washington Island. The mouth of the harbor is protected by the N end of Detroit Island. A semicircular bight in the N end of Detroit Island forms a well protected area in the S part of the harbor. N of Detroit Island, the harbor has general depths of 7 to 10 feet and a rocky spot, covered 3 feet, near the center. Shallow-draft vessels with local knowledge may enter the harbor across the rocky bank which connects the NE side of Detroit Island to Washington Island. The main entrance to the harbor is W of Detroit Island. **Washington Island Coast Guard Station**, seasonally operated, is on the SW side of Detroit Harbor at the S end of Washington Island.
Caution.–Currents with velocities up to 2 mph are of frequent occurrence around **North and South Fox Islands**. Mariners should exercise caution while navigating in the area.

U.S. Coast Guard Rescue Coordination Center
24 hour Regional Contact for Emergencies

RCC Cleveland	Commander 9th CG District Cleveland, OH	(216) 902-6117

Navigation Managers Area of Responsibility

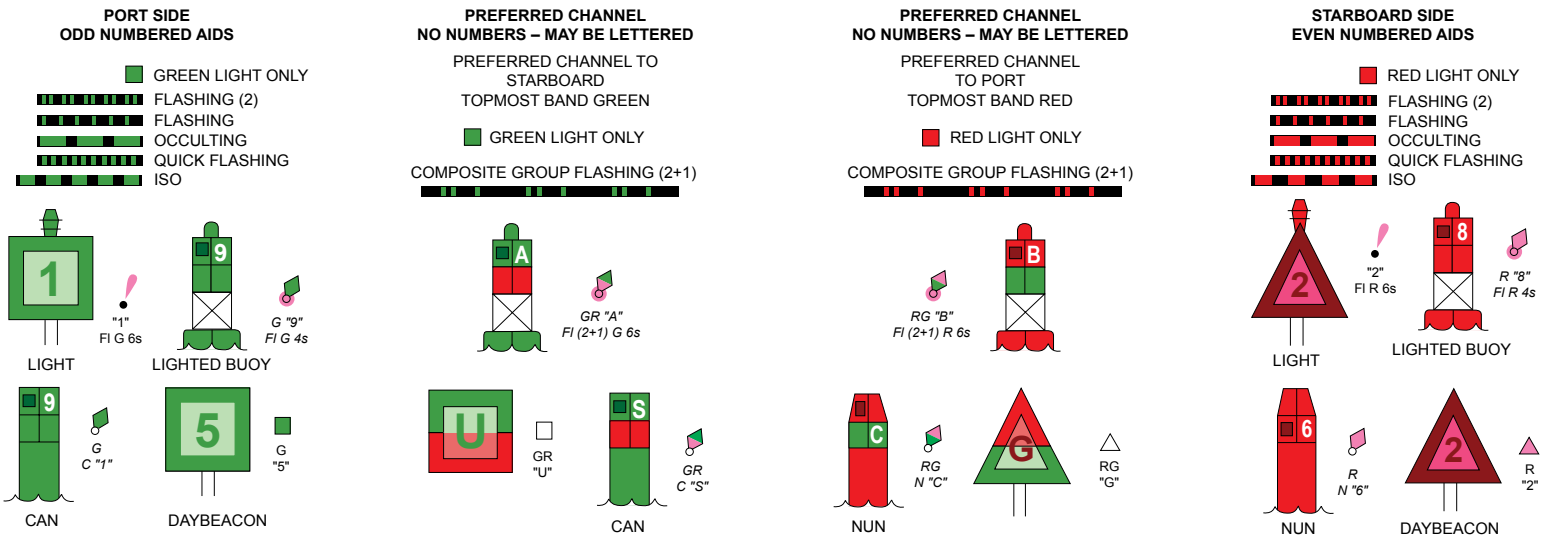


NOAA's navigation managers serve as ambassadors to the maritime community. They help identify navigational challenges facing professional and recreational mariners, and provide NOAA resources and information for safe navigation. For additional information, please visit *nauticalcharts.noaa.gov/service/navmanagers*

To make suggestions or ask questions online, go to *nauticalcharts.noaa.gov/inquiry*.
To report a chart discrepancy, please use *ocsdata.ncd.noaa.gov/idrs/discrepancy.aspx*.

Lateral System As Seen Entering From Seaward

on navigable waters except Western Rivers



For more information on aids to navigation, including those on Western Rivers, please consult the latest USCG Light List for your area. These volumes are available online at *http://www.navcen.uscg.gov*

NOAA encourages users to submit inquiries, discrepancies or comments about this chart at http://www.nauticalcharts.noaa.gov/staff/contact.htm.

14902

88° 00'

87° 45'

87° 30'

46° 00'

45° 45'

45°

NOAA

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE
COAST SURVEY

HORIZONTAL DATUM

The horizontal reference datum of this ch
American Datum of 1983 (NAD 83), which f
purposes is considered equivalent to the Wo
System of 1984 (WGS 84). Geographic positi
to the North American Datum of 1927 do
conversion to NAD 83 for plotting on this ch

UNITED STATES - GREAT LAKES

MICHIGAN

NORTH END OF LAKE MICHIGAN

INCLUDING

GREEN BAY

Polyconic Projection
Scale 1:240,000
North American Datum of 1983
(World Geodetic System 1984)

SOUNDINGS IN FEET

Additional information can be obtained at nauticalcharts.noaa.gov.

NOTES

PLANE OF REFERENCE OF THIS CHART (Low Water Datum) ..... 577.5 ft. Referred to mean water level at Rimouski, Quebec, International Great Lakes Datum (1985).

SAILING DIRECTIONS. Bearings of sailing courses are true and distances given thereon are in statute miles between points of departure. The true bearing between any two points on this chart may be determined by connecting the two points with a straight line and measuring the angle of its intersection with a meridian line at or near the middle of the course.

AIDS TO NAVIGATION. Consult U.S. Coast Guard Light List for supplemental information concerning aids to navigation.

SYMBOLS AND ABBREVIATIONS. For complete list of symbols and abbreviations see Chart No. 1.

BRIDGE AND OVERHEAD CABLE CLEARANCES. When the water surface is above Low Water Datum, bridge and overhead clearances are reduced correspondingly. For clearances see U.S. Coast Pilot 6.

AUTHORITIES. Hydrography and topography by the National Ocean Service, Coast Survey, with additional data from the Corps of Engineers, Geological Survey, and and U. S. Coast Guard.

OMISSION OF DETAIL. Owing to the small scale many aids to navigation, depths, contours and topographic features have been omitted. For detail consult Coast and Harbor Charts.

Sailing courses and limits indicated in magenta are recommended by the Lake Carriers Association and the Canadian Shipowners Association.

WARNING

The prudent mariner will not rely solely on any single aid to navigation, particularly on floating aids. See U.S. Coast Guard Light List and U.S. Coast Pilot for details.

NOTE A

Navigation regulations are published in Chapter 2, U.S. Coast Pilot 6. Additions or revisions to Chapter 2 are published in the Notice to Mariners. Information concerning the regulations may be obtained at the Office of the Commander, 9th Coast Guard District in Cleveland, Ohio or at the Office of the District Engineer, Corps of Engineers in Detroit, Michigan.

Refer to charted regulation section numbers.

NOTE Z
NO-DISCHARGE ZONE, 40 CFR 1

This chart falls entirely within the limits of a N
Zone (NDZ). Under the Clean Water Act, Se
vessels operating within a No-Discharge Zo
completely prohibited from discharging any se
or untreated, into the waters. Commercial ve
shall include graywater. All vessels with an ins
sanitation device (MSD) that are navigati
anchored, or docked within a NDZ must ha
disabled to prevent the overboard discharg
(treated or untreated) or install a holding tank.
for the NDZ are contained in the U.S.
Additional information concerning the regu
requirements may be obtained from the En
Protection Agency (EPA) web site: http://ww
owow/oceans/regulatory/vessel_sewage/.

SCALE

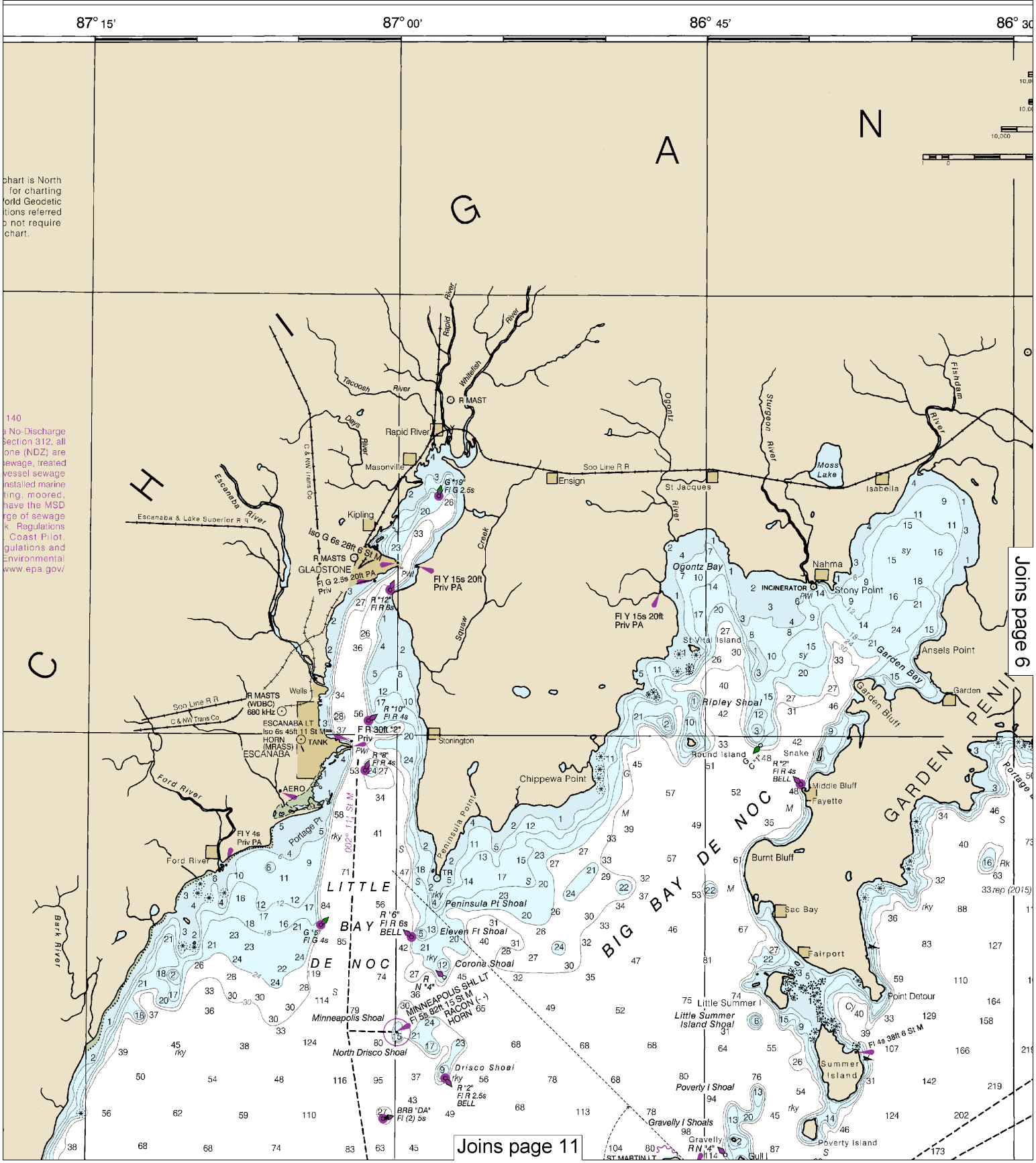
STATUT
MET
YA
FE

Joins page 10

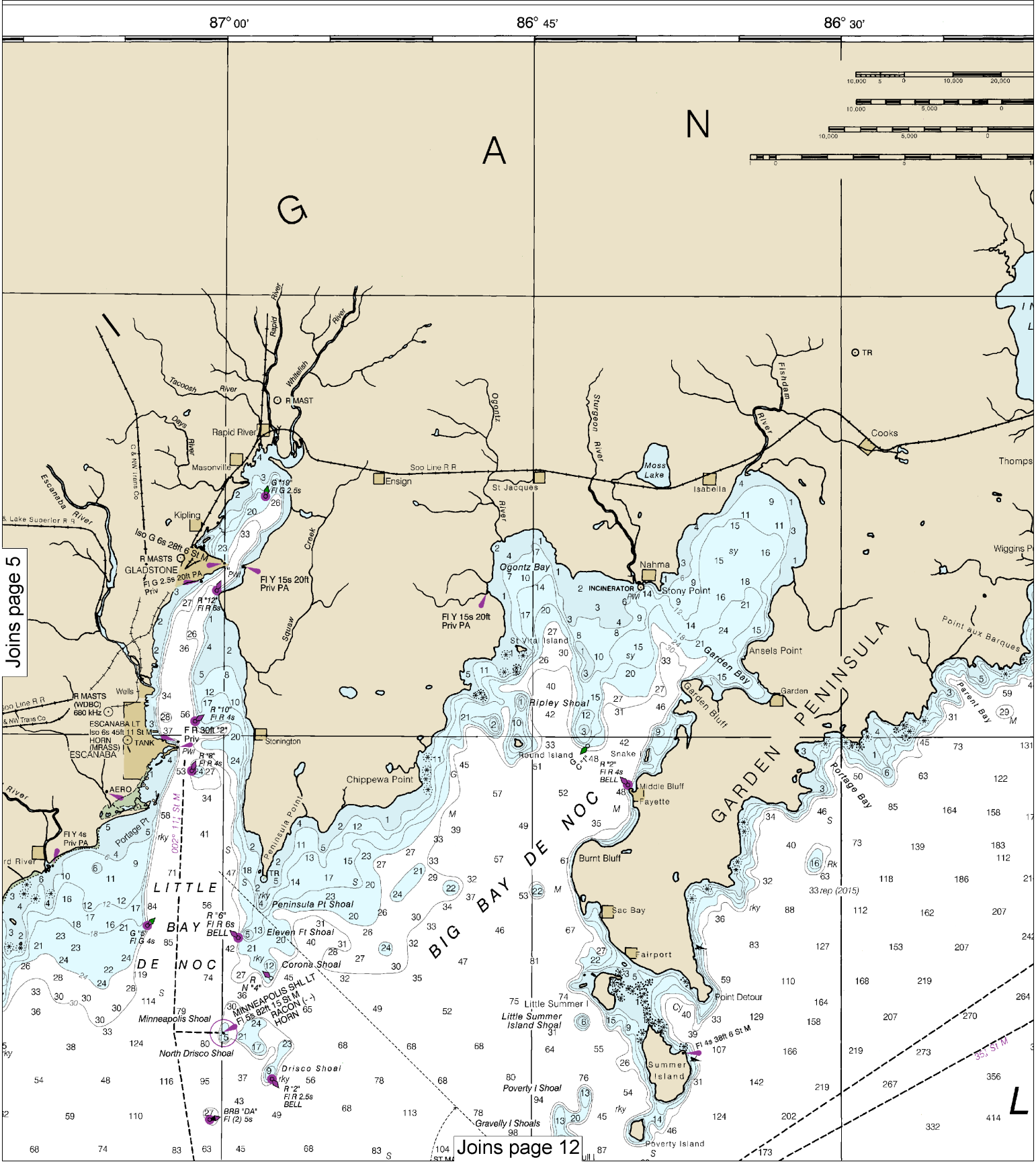
Creek

4

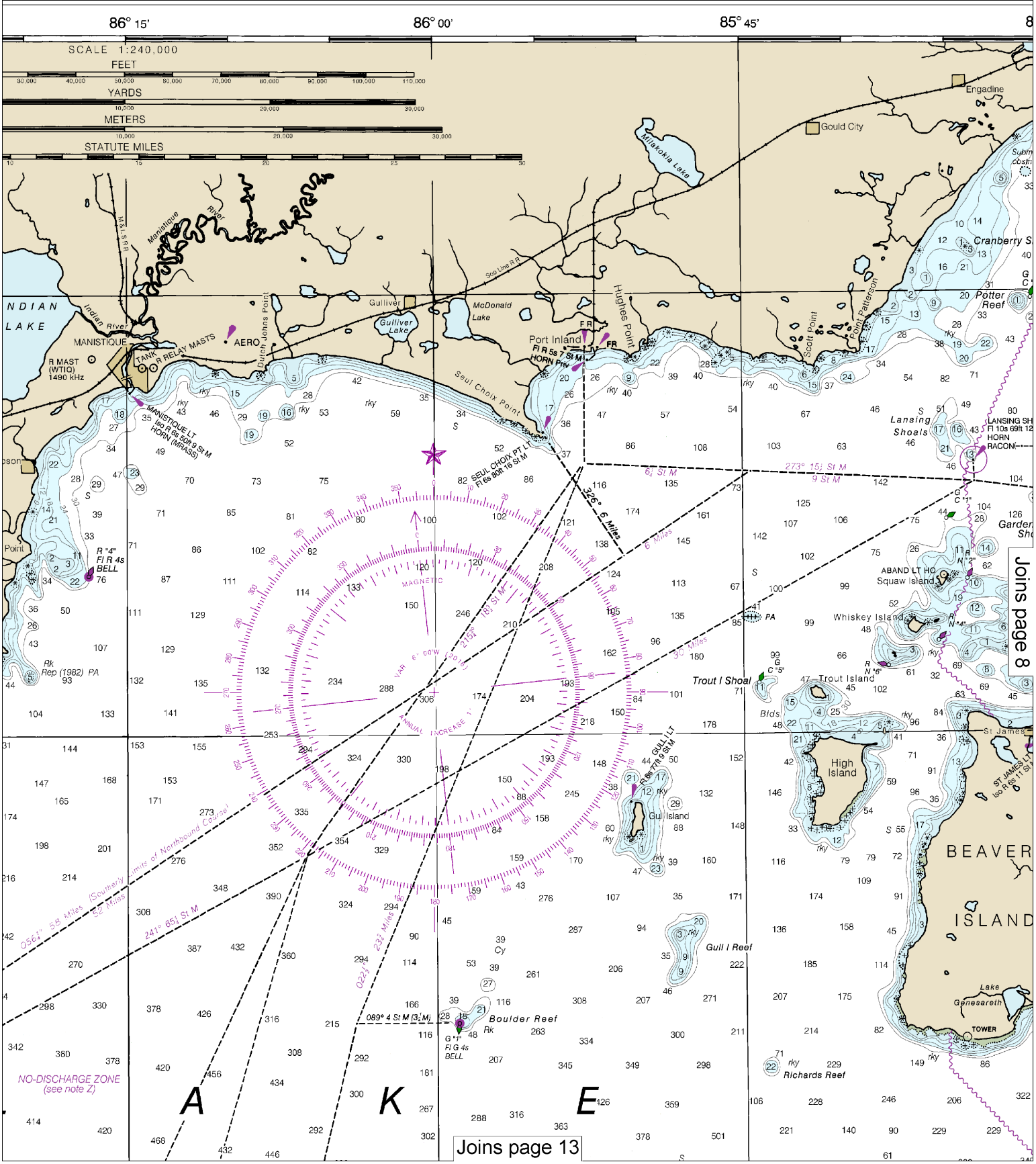
Note: Chart grid lines are aligned with true north.

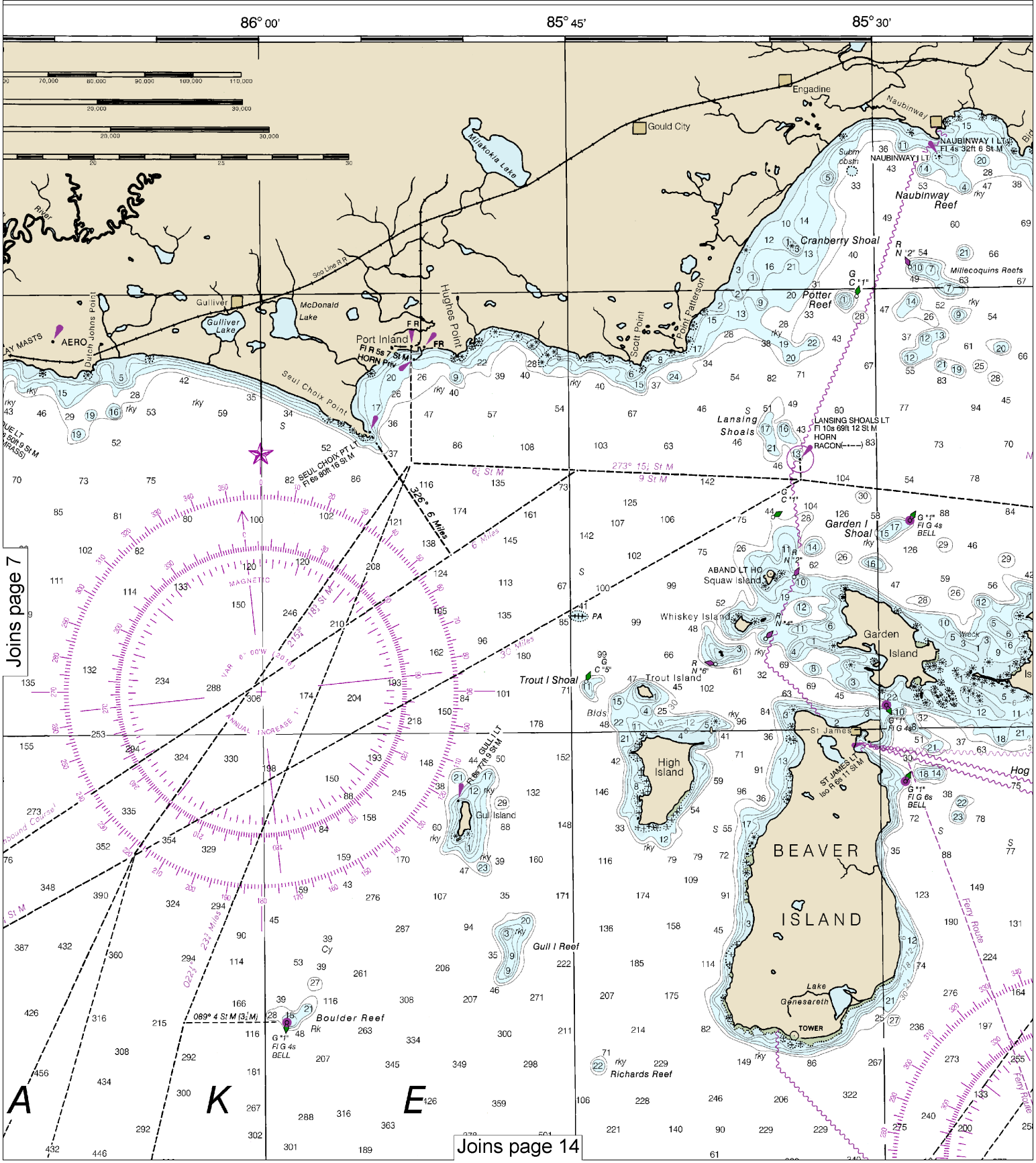


This BookletChart was reduced to 75% of the original chart scale.
The new scale is 1:320000. Barscales have also been reduced and
are accurate when used to measure distances in this BookletChart.



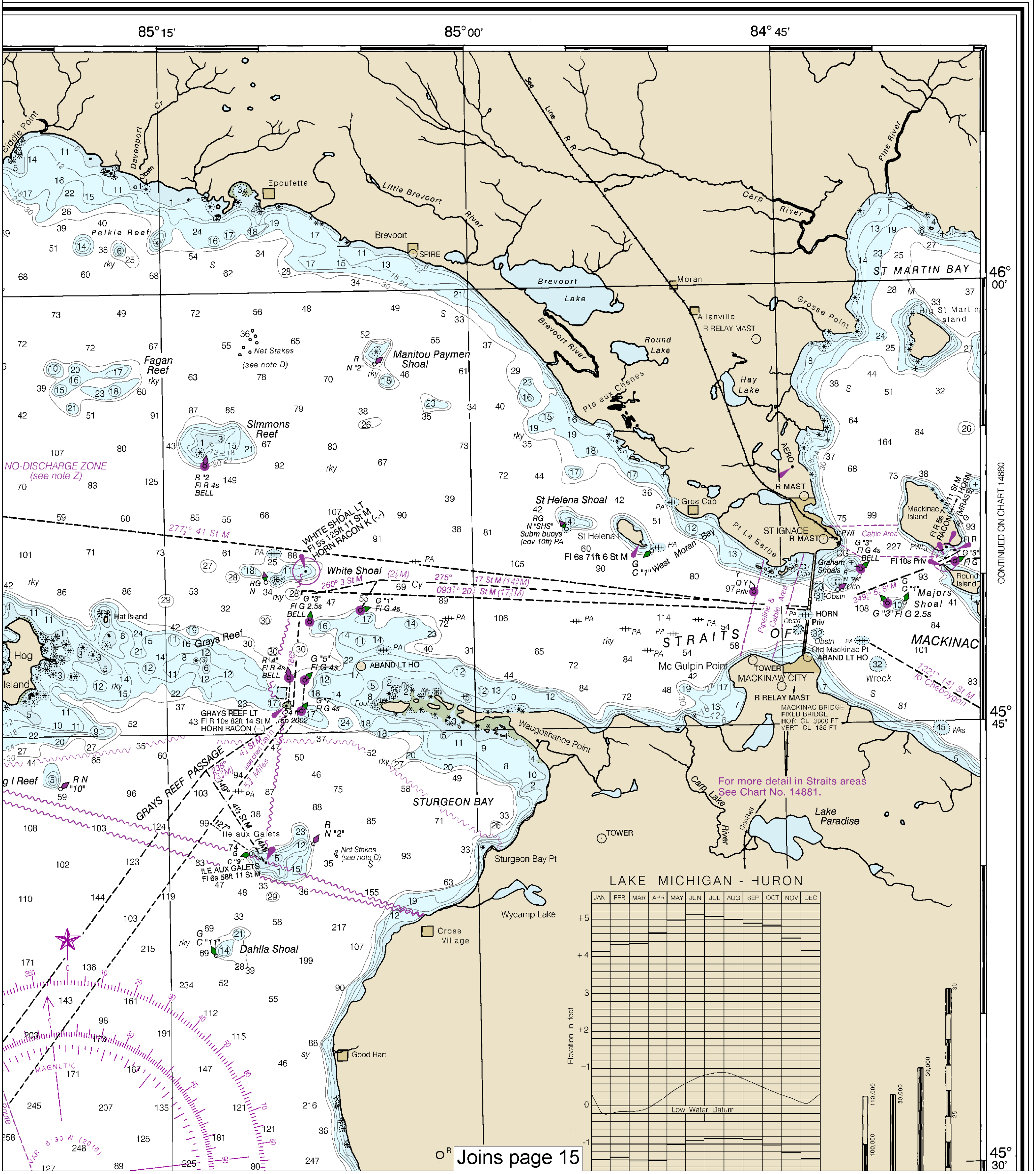
Note: Chart grid lines are aligned with true north.


86° 15'
86° 00'
85° 45'
SCALE 1:240,000
FEET
YARDS
METERS
STATUTE MILES
Engadine
Gould City
Miliakokia Lake
Manistique River
M & I S R R
Soo Line R R
Indian River
MANISTIQUE
R MAST (WTIQ) 1490 kHz
TANK
R RELAY MASTS
AERO
Dutch Johns Point
Gulliver
Gulliver Lake
McDonald Lake
Port Inland
F R
Fl R 5s 7 St M
HORN Priv
Hughes Point
Point Patterson
Scott Point
Cranberry S
Potter Reef
Seul Choix Point
MANISTIQUE LT
Iso R 6s 50ft 9 St M
HORN (MRASS)
SEUL CHOIX PT LT
Fl Es 60ft 15 St M
Lansing Shoals
LANSING SH
Fl 10s 69ft 12
HORN
RACON
273° 15¼ St M
9 St M
6¼ St M
326° 6 Miles
6 Miles
3½ Miles
MAGNETIC
VAR 6° 00'W (2015)
ANNUAL INCREASE 1°
ABAND LT HO
Squaw Island
Whiskey Island
Trout I Shoal
Trout Island
Bids
High Island
ST JAMES LT
Iso R 6s 11 St M
Gull Island
GULL I LT
Fl R 6s 17 ft 9 St M
Gull I Reef
Boulder Reef
G "1"
Fl G 4s
BELL
089° 4 St M (3¼ M)
Richards Reef
Lake Genesareth
TOWER
BEAVER
ISLAND
St James
R "4"
Fl R 4s
BELL
Rk
Rep (1982) PA
PA
Point
NO-DISCHARGE ZONE
(see note Z)
Southerly Limits of Northbound Course
056½° 5.8 Miles
5.2 Miles
241° 651 St M
022½°
233 Miles
A K E
Joins page 8
Joins page 13



8

Note: Chart grid lines are aligned with true north.


85° 15'
85° 00'
84° 45'
46° 00'
45° 45'
45° 30'
CONTINUED ON CHART 14880
Biddle Point
Davenport Cr
Epoufette
Pelkie Reef
Little Brevoort River
Brevoort
SPIRE
Soo Line R R
Brevoort Lake
Brevoort River
Moran
Allenville
R RELAY MAST
Round Lake
Hay Lake
Pte aux Chenes
Carp River
Pine River
ST MARTIN BAY
Grosse Point
Big St Martin Island
Fagan Reef
Net Stakes
(see note D)
Manitou Paymen Shoal
Simmons Reef
R "2" Fl R 4s BELL
NO-DISCHARGE ZONE
(see note Z)
St Helena Shoal
St Helena
Fl 6s 71ft 6 St M
West Moran Bay
Gros Cap
AERO
R MAST
ST IGNACE
Pt La Barbe
Mackinac Island
Round Island
Graham Shoals
Cable Area
Majors Shoal
WHITE SHOAL LT
Fl 5s 125ft 11 St M
HORN RACON K (-·-)
White Shoal
277½° 41 St M
260° 3 St M
275°
093½° 20 St M (17½M)
17 St M (14⅞M)
Hat Island
Hog Island
Grays Reef
ABAND LT HO
Pipeline & Cable Area
STRAITS OF MACKINAC
Mc Gulpin Point
TOWER
MACKINAW CITY
R RELAY MAST
MACKINAC BRIDGE
FIXED BRIDGE
HOR CL 3000 FT
VERT CL 135 FT
Old Mackinac Pt
ABAND LT HO
Wreck
122° 14 St M to Cheboygan
GRAYS REEF LT
Fl R 10s 82ft 14 St M
HORN RACON (--)
GRAYS REEF PASSAGE
Waugoshance Point
STURGEON BAY
Carp Lake River
Lake Paradise
For more detail in Straits areas
See Chart No. 14881.
Ile aux Galets
ILE AUX GALETS
Fl 6s 58ft 11 St M
Sturgeon Bay Pt
Wycamp Lake
Cross Village
Dahlia Shoal
Good Hart
MAGNETIC
VAR. 6°30'W (2016)
Joins page 15
LAKE MICHIGAN - HURON
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
Elevation in feet
Low Water Datum

Joins page 4

Pilot for details.

NOTE A

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Refer to charted regulation section numbers.

SCALE 1:240,000

STATUTE MILES · METERS · YARDS · FEET

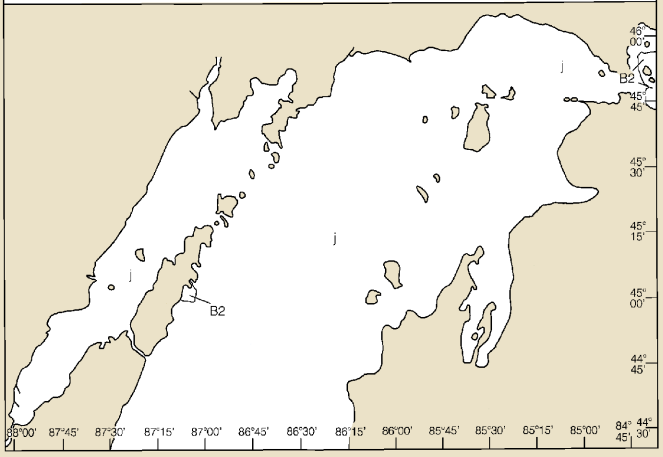
45° 30'

45° 15'

45° 00'

SOURCE

j	Pre-1974	Lake Survey Surveys	partial bottom coverage
B2	1970-1989	NOS Surveys	partial bottom coverage



SOURCE DIAGRAM

Most of the hydrography identified by the letter "j" was surveyed by the U.S. Army Corps of Engineers prior to 1974. Other outlined areas represent the limits of the most recent hydrographic survey information that has been evaluated for charting. Surveys have been banded in this diagram by date and type of survey. Channels currently maintained by the U.S. Army Corps of Engineers are periodically resurveyed and are not shown on this diagram. Refer to Chapter 1, United States Coast Pilot.

CAUTION

Due to periodic high water conditions in the Great Lakes, some features charted as visible at Low Water Datum may be submerged, particularly in the near shore areas. Mariners should proceed with caution.

CAUTION

POTABLE WATER INTAKE

Vessels operating in fresh water lakes or rivers shall not discharge sewage, or ballast, or bilge water within such areas adjacent to domestic water intakes as are designated by the Commissioner of Food and Drugs (21 CFR 1250.93). Consult U.S. Coast Pilot 6 for important supplemental information.

For more details see Coast and Harbor Charts.

Cedar River

Fl R 4s 20ft 4 St M "2"

Deer Creek

Fox

Arthur Bay

Ingallston

TV TR

POUND NET FISHING GROUNDS

CHAMBERS I LT Fl 6s 97ft 12 St M

Chambers Island

G "3" Fl G 2.5s BELL

227° 10 St M

Hanover Shoal

Menominee River

STACK MENOMINEE AERO

Fl R 4s 40ft "2" Priv

R "2A" Fl R 4s BELL

Oc R 4s 46ft 9 St M "4"

Fl R 12 St M "6"

R MAST (WMAM) 570 kHz

MARINETTE

TANK

Peshtigo

Peshtigo River

Peshtigo Point

G "1" Fl G 4s

R N "6"

GREEN I LT Fl 6s 80ft 9 St M

189° 12 St M

Green Island

R N "2"

Hat Island

Cy BR C "HI"

G C "5"

Monument Shoal

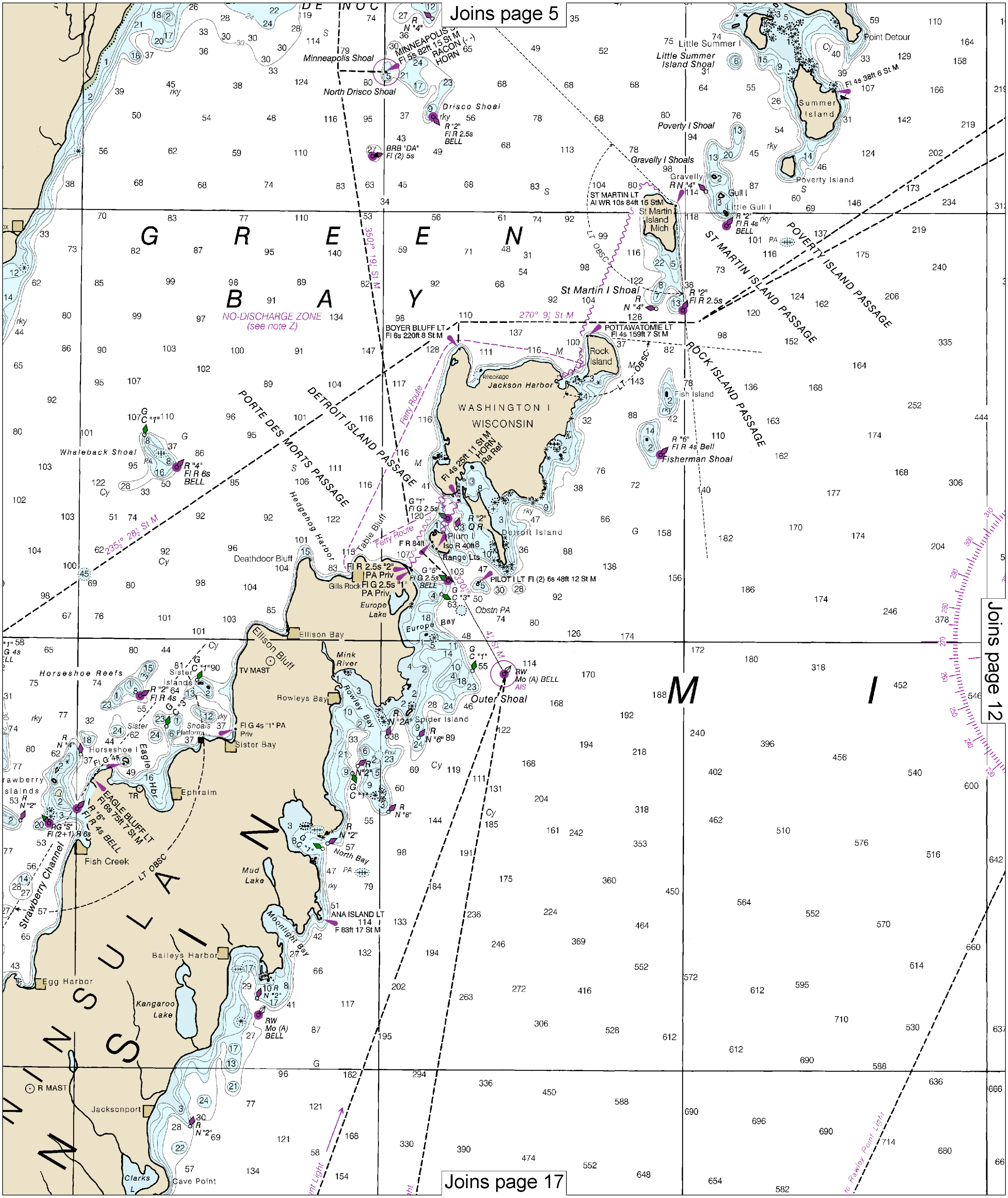
Peshtigo Reef Fl 6s 72ft 9 St M HORN

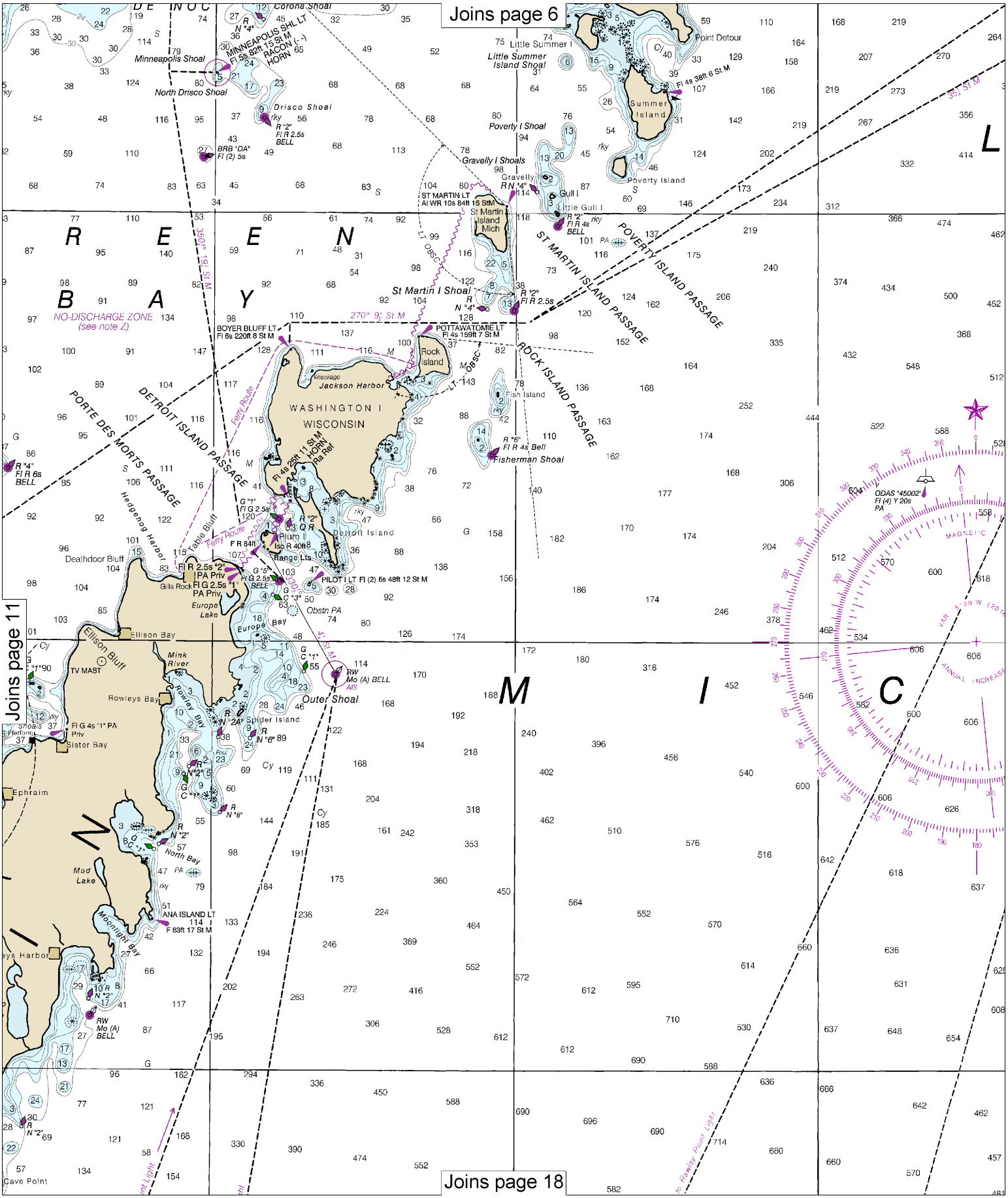
Sturgeon

Joins page 16

10

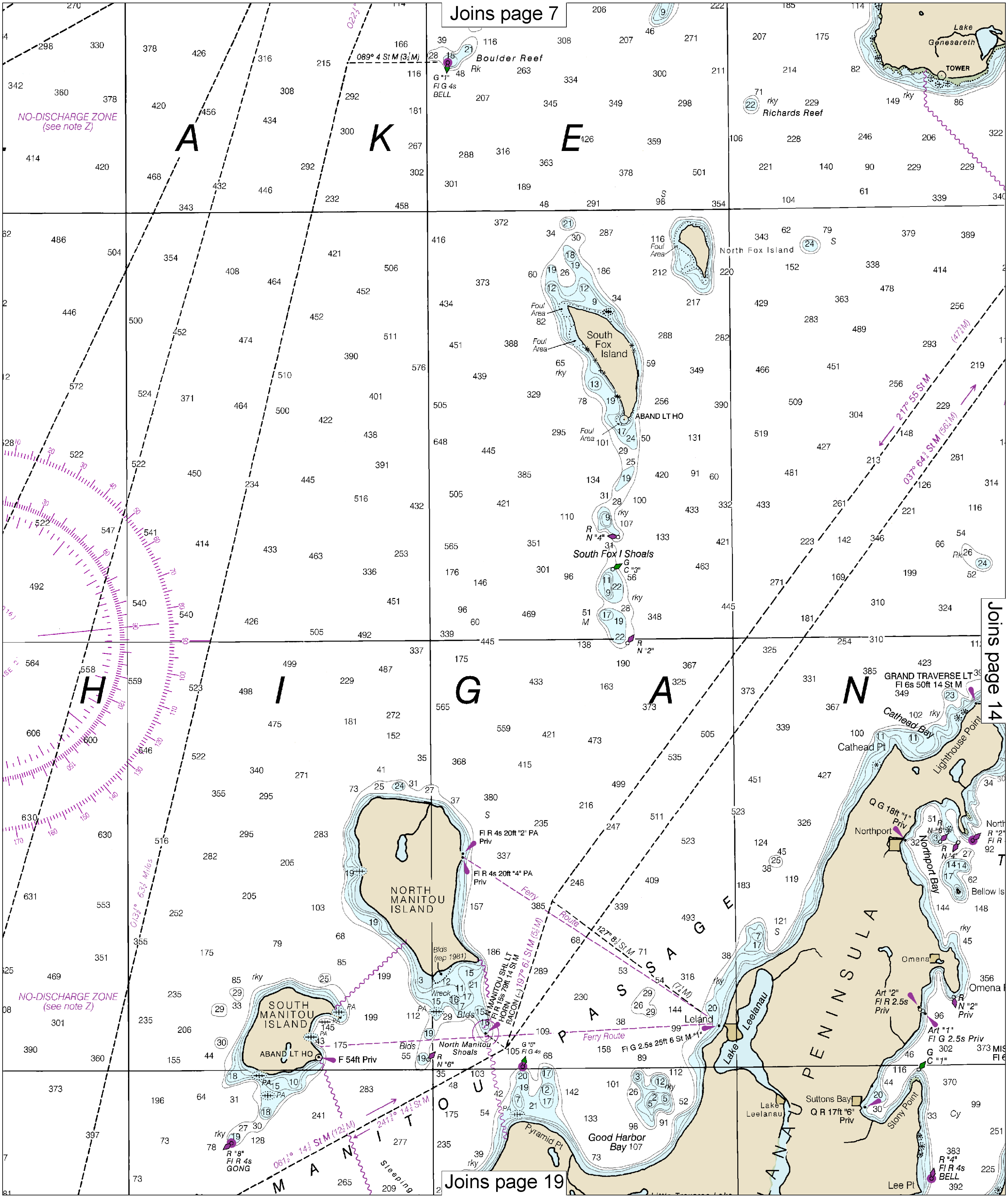
Note: Chart grid lines are aligned with true north.

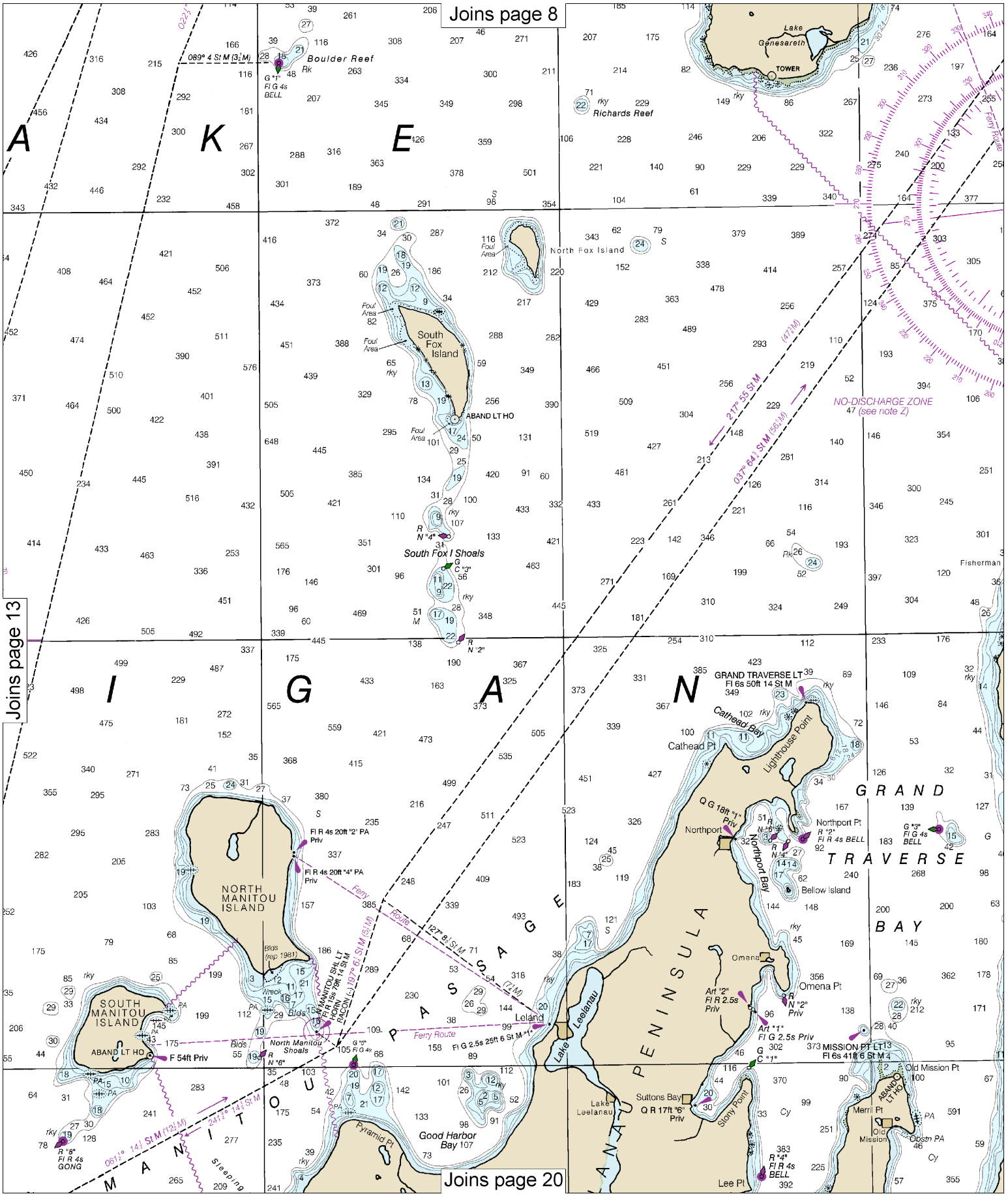

Joins page 5
Joins page 12
Joins page 17
GREEN BAY
NO-DISCHARGE ZONE
(see note Z)
MI
PENINSULA
WASHINGTON I
WISCONSIN
Minneapolis Shoal
North Drisco Shoal
Drisco Shoal
Little Summer I
Little Summer Island Shoal
Point Detour
Summer Island
Poverty I Shoal
Gravelly I Shoals
Gravelly
Gull I
Little Gull I
Poverty Island
St Martin Island Mich
St Martin I Shoal
ST MARTIN LT
POVERTY ISLAND PASSAGE
ST MARTIN ISLAND PASSAGE
ROCK ISLAND PASSAGE
POTTAWATOMIE LT
Rock Island
BOYER BLUFF LT
Jackson Harbor
Fish Island
Fisherman Shoal
PORTE DES MORTS PASSAGE
DETROIT ISLAND PASSAGE
Ferry Route
Whaleback Shoal
Hedgehog Harbor
Table Bluff
Deathdoor Bluff
Gills Rock
Plum I
Range Lts
Detroit Island
PILOT I LT
Europe Lake
Europe Bay
Obstn PA
Ellison Bay
Ellison Bluff
TV MAST
Mink River
Rowleys Bay
Outer Shoal
Spider Island
Horseshoe Reefs
Sister Islands
Sister Shoals
Sister Bay
Horseshoe I
Eagle Hbr
Ephraim
Strawberry Islands
Strawberry Channel
EAGLE BLUFF LT
Fish Creek
LT OBSC
North Bay
Mud Lake
ANA ISLAND LT
Moonlight Bay
Baileys Harbor
Egg Harbor
Kangaroo Lake
R MAST
Jacksonport
Clarks L
Cave Point



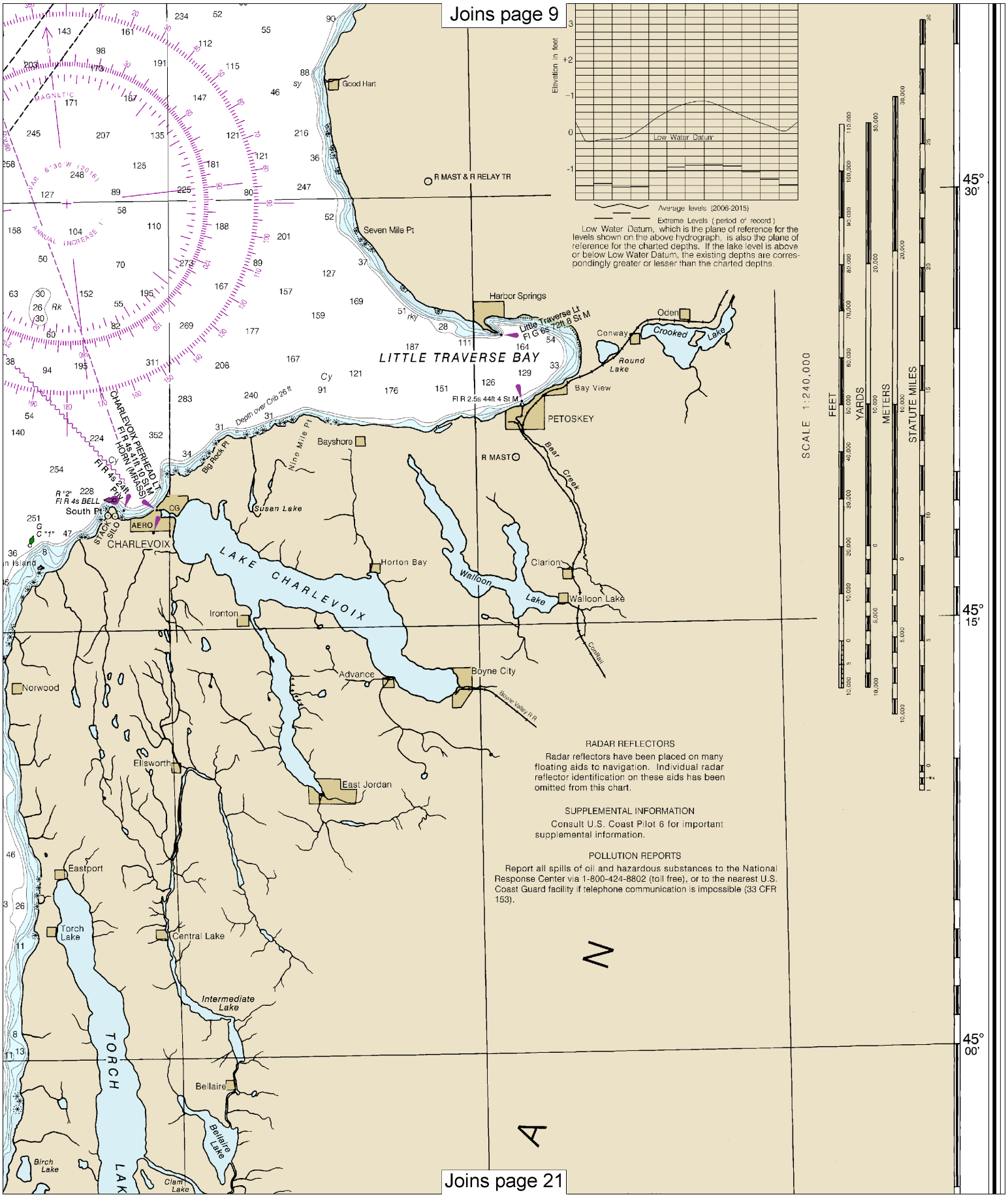
12

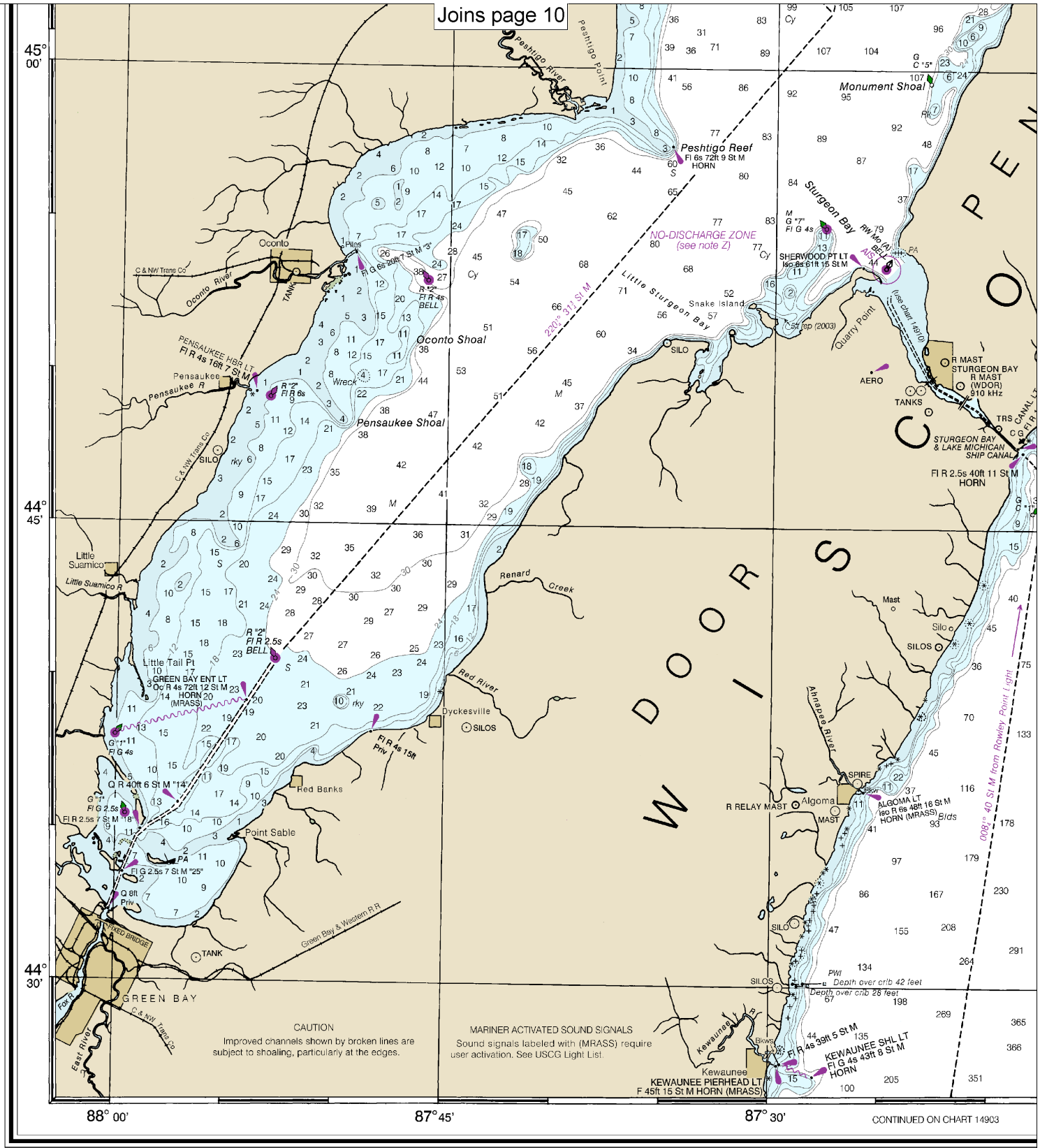
Note: Chart grid lines are aligned with true north.


Joins page 7
Joins page 14
Joins page 19
L A K E
M I C H I G A N
M A N I T O U P A S S A G E
L E E L A N A U P E N I N S U L A
NO-DISCHARGE ZONE
(see note Z)
Boulder Reef
G "1" Fl G 4s BELL
Richards Reef
Lake Genesareth
TOWER
North Fox Island
South Fox Island
ABAND LT HO
South Fox I Shoals
R N "4"
G C "3"
R N "2"
Foul Area
GRAND TRAVERSE LT Fl 6s 50ft 14 St M
Cathead Bay
Cathead Pt
Lighthouse Point
Northport
Northport Bay
Q G 18ft "1" Priv
Bellow Is
Omena
Omena B
Art "2" Fl R 2.5s Priv
Art "1" Fl G 2.5s Priv
G C "1"
Suttons Bay
Q R 17ft "6" Priv
Stony Point
R "4" Fl R 4s BELL
Lee Pt
NORTH MANITOU ISLAND
Fl R 4s 20ft "2" PA Priv
Fl R 4s 20ft "4" PA Priv
Ferry Route
N MANITOU SHL LT Fl R 15s 79ft 14 St M HORN RACON (-)
North Manitou Shoals
R N "6"
G "5" Fl G 4s
SOUTH MANITOU ISLAND
ABAND LT HO
F 54ft Priv
R "8" Fl R 4s GONG
Leland
Lake Leelanau
Fl G 2.5s 25ft 6 St M "1"
Good Harbor Bay
Pyramid Pt
Sleeping
217° 55 St M (47 M)
037° 64½ St M (56 M)
127° 8¼ St M (7 M)
197° 6½ St M (5 M)
061½° 14½ St M (12½ M)
241½° 14½ St M
013½° 63½ Miles
089° 4 St M (3½ M)



Note: Chart grid lines are aligned with true north.


Joins page 9
Good Hart
R MAST & R RELAY TR
Seven Mile Pt
Harbor Springs
Little Traverse Lt
Fl G 6s 72ft 8 St M
LITTLE TRAVERSE BAY
Oden
Conway
Crooked Lake
Round Lake
Bay View
PETOSKEY
Fl R 2.5s 44ft 4 St M
Depth over Crib 26 ft
Bayshore
Nine Mile Pt
Big Rock Pt
R MAST
Bear Creek
CHARLEVOIX PIERHEAD LT
Fl R 4s 41ft 10 St M
HORN (MRSS)
Fl R 4s 24ft
South Pt
R "2"
Fl R 4s BELL
CG
AERO
CHARLEVOIX
Susan Lake
LAKE CHARLEVOIX
Horton Bay
Clarion
Walloon Lake
Ironton
Advance
Boyne City
Norwood
Elsworth
East Jordan
Eastport
Torch Lake
Central Lake
Intermediate Lake
TORCH LAKE
Bellaire
Bellaire Lake
Birch Lake
Clam Lake
Joins page 21
Low Water Datum
Average levels (2006-2015)
Extreme Levels (period of record)
Low Water Datum, which is the plane of reference for the levels shown on the above hydrograph, is also the plane of reference for the charted depths. If the lake level is above or below Low Water Datum, the existing depths are correspondingly greater or lesser than the charted depths.
RADAR REFLECTORS
Radar reflectors have been placed on many floating aids to navigation. Individual radar reflector identification on these aids has been omitted from this chart.
SUPPLEMENTAL INFORMATION
Consult U.S. Coast Pilot 6 for important supplemental information.
POLLUTION REPORTS
Report all spills of oil and hazardous substances to the National Response Center via 1-800-424-8802 (toll free), or to the nearest U.S. Coast Guard facility if telephone communication is impossible (33 CFR 153).
SCALE 1:240,000
FEET
YARDS
METERS
STATUTE MILES
45° 30'
45° 15'
45° 00'



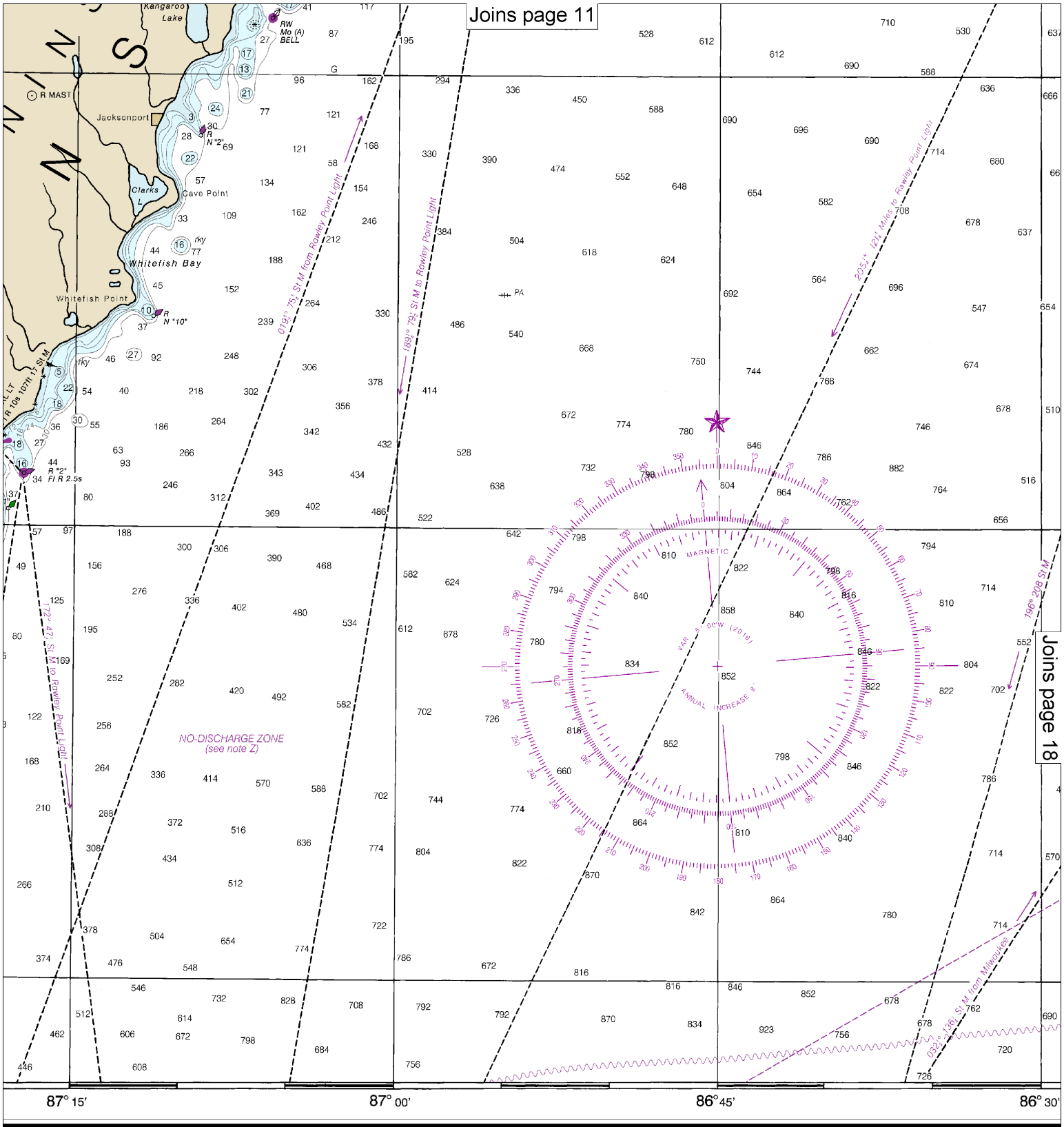
CAUTION

This chart has been corrected from the Notice to Mariners (NM) published weekly by the National Geospatial-Intelligence Agency and the Local Notice to Mariners (LNM) issued periodically by each U.S. Coast Guard district to the dates shown in the lower left hand corner. Chart updates corrected from Notice to Mariners published after the dates shown in the lower left hand corner are available at nauticalcharts.noaa.gov.

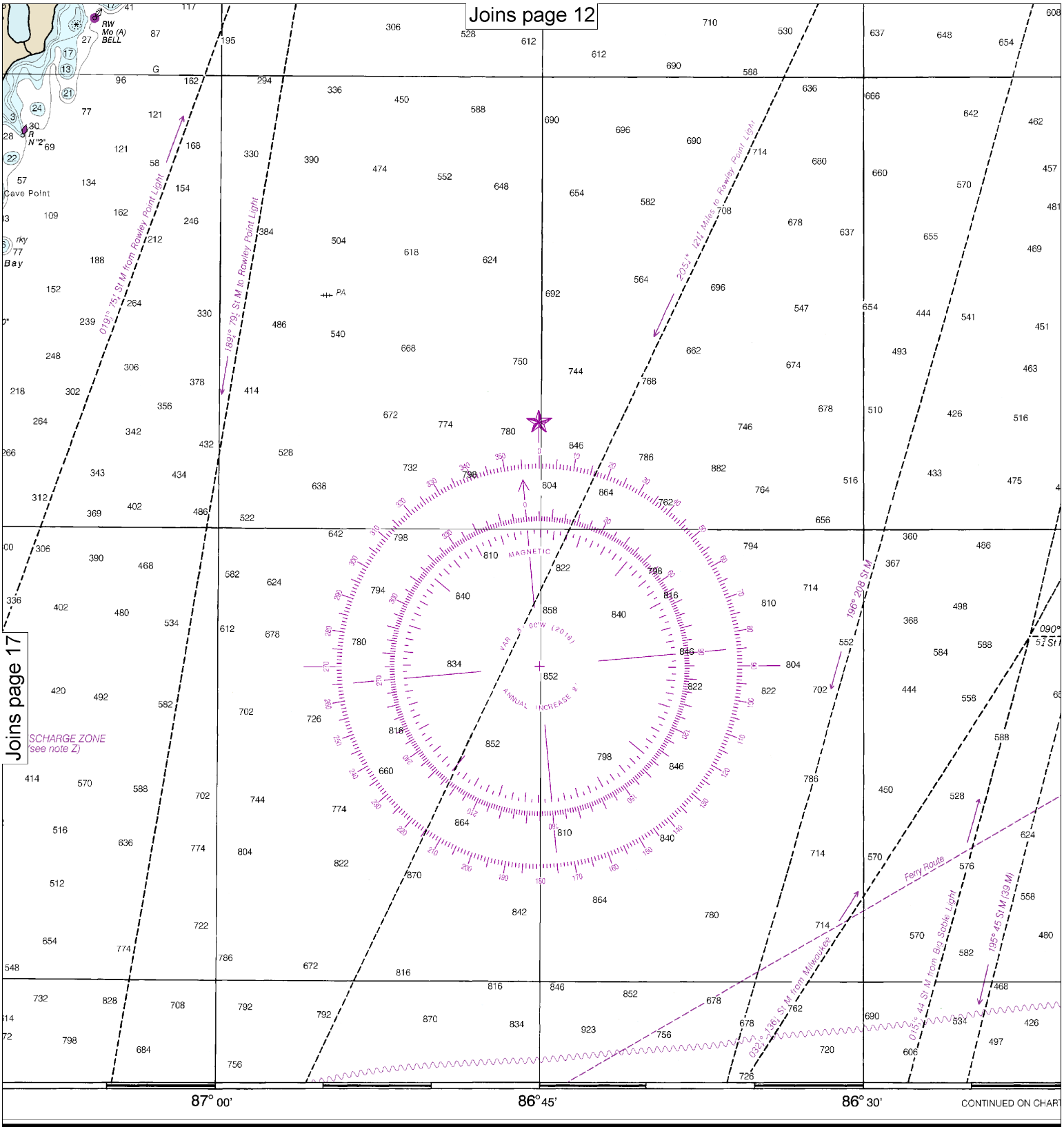
14902

30th Ed., Jul. 2016. Last Correction: 11/28/2016. Cleared through:
LNM: 4816 (11/29/2016), NM: 4916 (12/3/2016), CHS: 1116 (11/25/2016)

Note: Chart grid lines are aligned with true north.



SOUNDINGS IN FEET



S IN FEET

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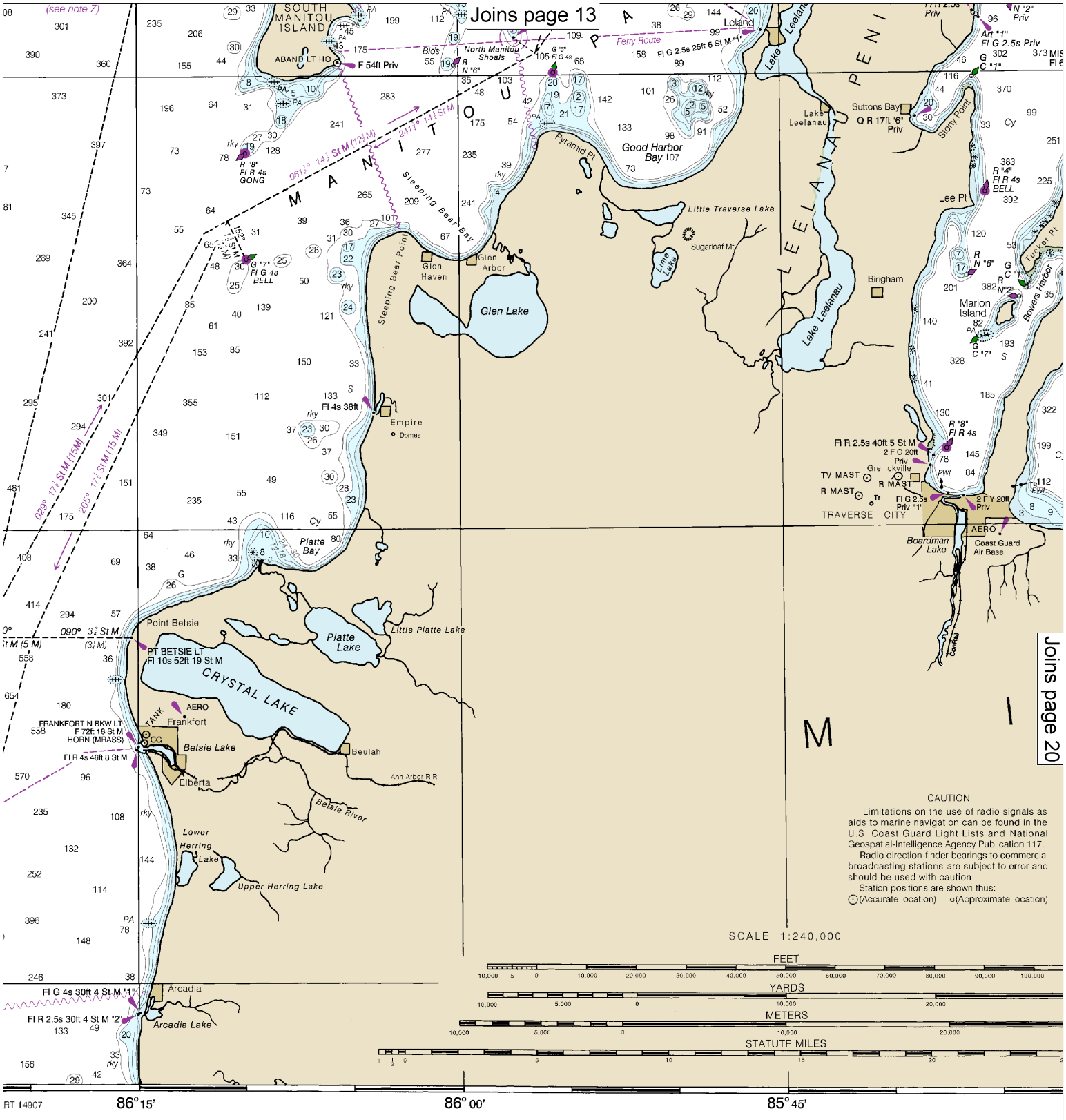
Note: Chart grid lines are aligned with true north.



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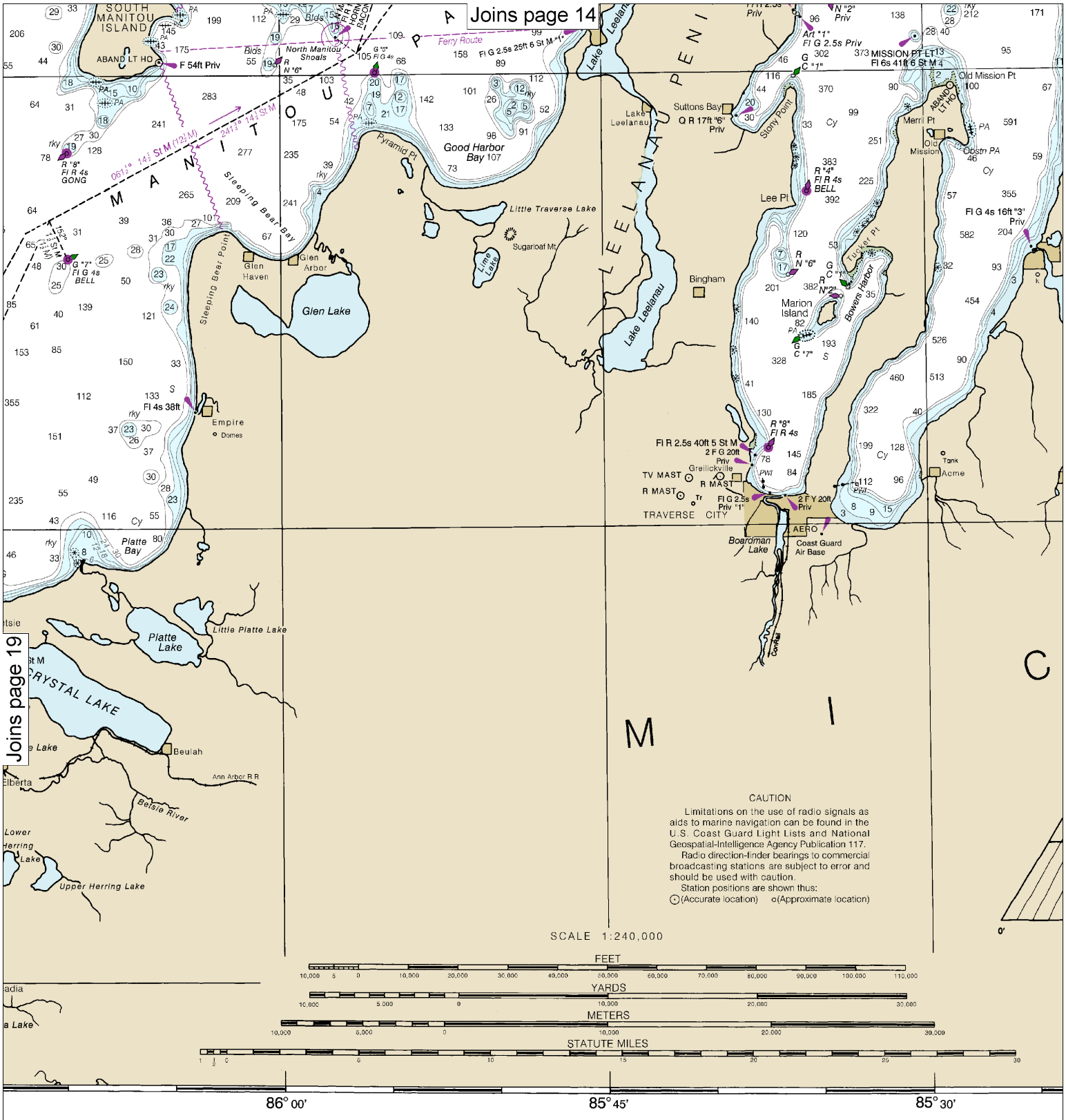
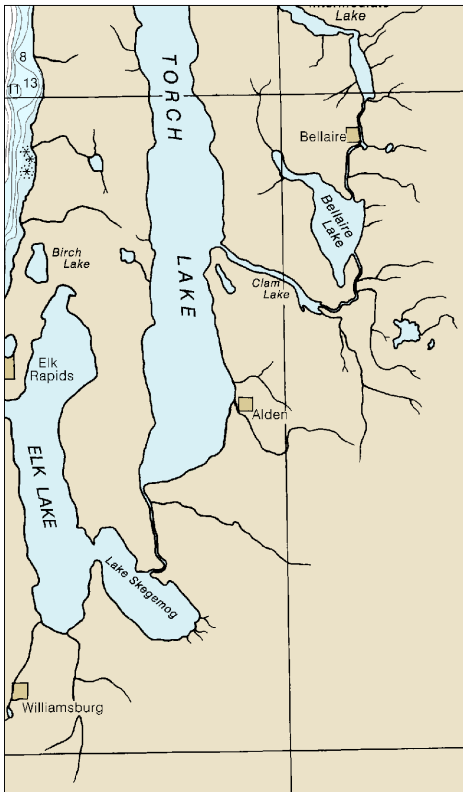
AST SURVEY



Note: Chart grid lines are aligned with true north.

Joins page 15



45° 00'

44° 45'

44° 30'

85° 15'

85° 00'

85° 45'

CAUTION

SUBMARINE PIPELINES AND CABLES

Charted submarine pipelines and submarine cables and submarine pipeline and cable areas are shown as:

Pipeline Area

Cable Area

Additional uncharted submarine pipelines and submarine cables may exist within the area of this chart. Not all submarine pipelines and submarine cables are required to be buried, and those that were originally buried may have become exposed. Mariners should use extreme caution when operating vessels in depths of water comparable to their draft in areas where pipelines and cables may exist, and when anchoring, dragging, or trawling.

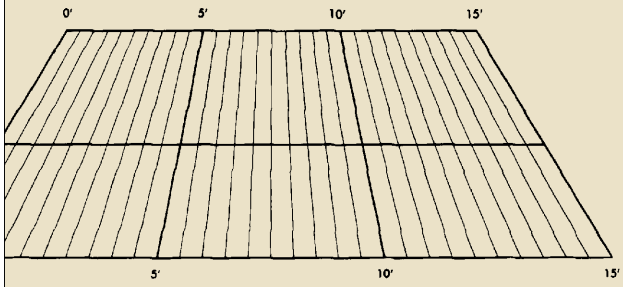
Covered wells may be marked by lighted or unlighted buoys.

RACING BUOYS

Racing buoys within the limits of this chart are not shown hereon. Information may be obtained from the U.S. Coast Guard District Offices as racing and other private buoys are not all listed in the U.S. Coast Guard Light List.

ARTICULATED AIDS

An articulated aid to navigation consists of a pipe structure that oscillates around a universal coupling connected to a sinker. The structure is kept upright by the buoyancy of a submerged flotation chamber. It is designed primarily to mark narrow channels in depths of up to 60 feet. All articulated aids are labelled *"Art"*.



Latitude and Longitude Plotting Interpolator

CAUTION

Temporary changes or defects in aids to navigation are not indicated on this chart. See Local Notice to Mariners.

During some winter months or when endangered by ice, certain aids to navigation are replaced by other types or removed. For details see U.S. Coast Guard Light List.

NOAA WEATHER RADIO BROADCASTS

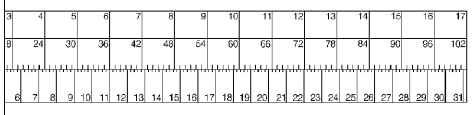
The NOAA Weather Radio stations listed below provide continuous weather broadcasts. The reception range is typically 20 to 40 nautical miles from the antenna site, but can be as much as 100 nautical miles for stations at high elevations.

Escanaba, MI	KZZ-35	162.500 MHz
Gaylord, MI	WWF-70	162.500 MHz
Green Bay, WI	KIG-65	162.550 MHz
Marquette, MI	KIG-66	162.550 MHz
Newberry, MI	WNG-576	162.450 MHz
Sault Ste Marie, MI	KIG-74	162.550 MHz
Sheboygan, WI	WWG-91	162.425 MHz
Sister Bay, WI	WXN-69	162.425 MHz
Traverse City, MI	KIH-22	162.400 MHz

NOTE D

Numerous fish traps and stakes have been reported in the area of this chart; some may be submerged. Small craft should use caution when operating outside the main channel.

787.2 X 1129.8 mm



North End of Lake Michigan

SOUNDINGS IN FEET-SCALE 1:240,000

14902

EMERGENCY INFORMATION

VHF Marine Radio channels for use on the waterways:

Channel 6 – Inter-ship safety communications.
Channel 9 – Communications between boats and ship-to-coast.
Channel 13 – Navigation purposes at bridges, locks, and harbors.
Channel 16 – Emergency, distress and safety calls to Coast Guard and others, and to initiate calls to other vessels. Contact the other vessel, agree to another channel, and then switch.
Channel 22A – Calls between the Coast Guard and the public. Severe weather warnings, hazards to navigation and safety warnings are broadcast here.
Channels 68, 69, 71, 72 and 78A – Recreational boat channels.

Getting and Giving Help — Signal other boaters using visual distress signals (flares, orange flag, lights, arm signals); whistles; horns; and on your VHF radio. You are required by law to help boaters in trouble. Respond to distress signals, but do not endanger yourself.

Distress Call Procedures

- Make sure radio is on.
- Select Channel 16.
- Press/Hold the transmit button.
- Clearly say: "MAYDAY, MAYDAY, MAYDAY."
- Also give: Vessel Name and/or Description; Position and/or Location; Nature of Emergency; Number of People on Board.
- Release transmit button.
- Wait for 10 seconds — If no response Repeat MAYDAY call.

HAVE ALL PERSONS PUT ON LIFE JACKETS!

All Hazards NOAA Weather Radio NOAA's National Weather Service

NOAA Weather Radio All Hazards (NWR) is a nationwide network of radio stations broadcasting continuous weather information directly from the nearest National Weather Service office. NWR broadcasts official Weather Service warnings, watches, forecasts and other hazard information 24 hours a day, 7 days a week.
http://www.nws.noaa.gov/nwr/

Quick References

Nautical chart related products and information	—	**http://www.nauticalcharts.noaa.gov**
Interactive chart catalog	—	**http://www.charts.noaa.gov/InteractiveCatalog/nrnc.shtml**
Report a chart discrepancy	—	**http://ocsdata.ncd.noaa.gov/idrs/discrepancy.aspx**
Chart and chart related inquiries and comments	—	**http://ocsdata.ncd.noaa.gov/idrs/inquiry.aspx?frompage=ContactUs**
Chart updates (LNM and NM corrections)	—	**http://www.nauticalcharts.noaa.gov/mcd/updates/LNM_NM.html**
Coast Pilot online	—	**http://www.nauticalcharts.noaa.gov/nsd/cpdownload.htm**
Tides and Currents	—	**http://tidesandcurrents.noaa.gov**
Marine Forecasts	—	**http://www.nws.noaa.gov/om/marine/home.htm**
National Data Buoy Center	—	**http://www.ndbc.noaa.gov/**
NowCoast web portal for coastal conditions	—	**http://www.nowcoast.noaa.gov/**
National Weather Service	—	**http://www.weather.gov/**
National Hurrican Center	—	**http://www.nhc.noaa.gov/**
Pacific Tsunami Warning Center	—	**http://ptwc.weather.gov/**
Contact Us	—	**http://www.nauticalcharts.noaa.gov/staff/contact.htm**

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